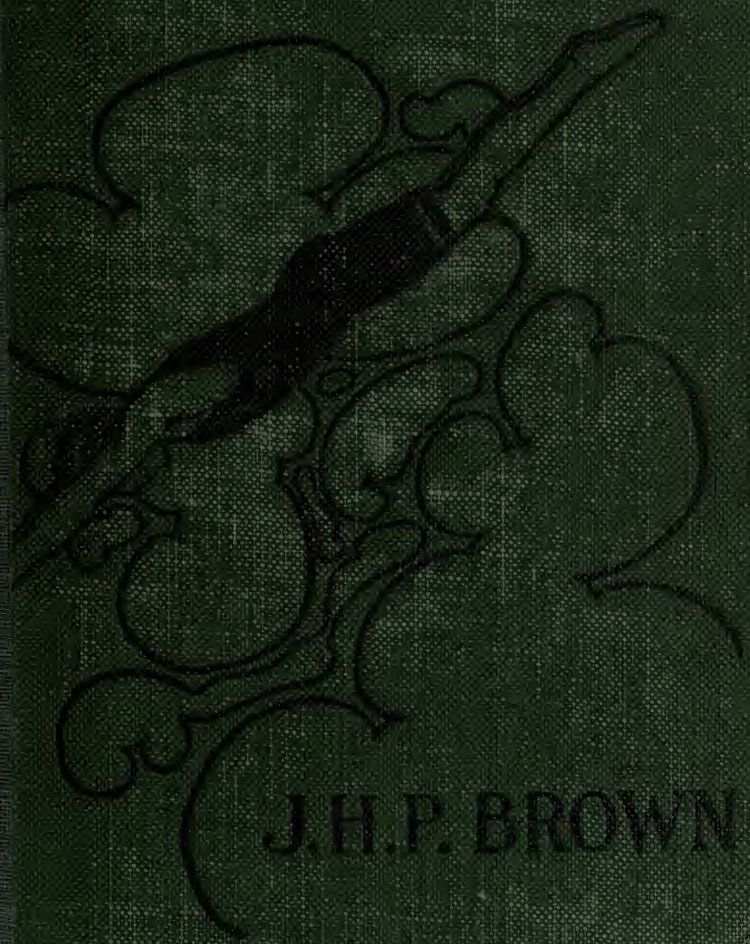
MODERN SWIMMING



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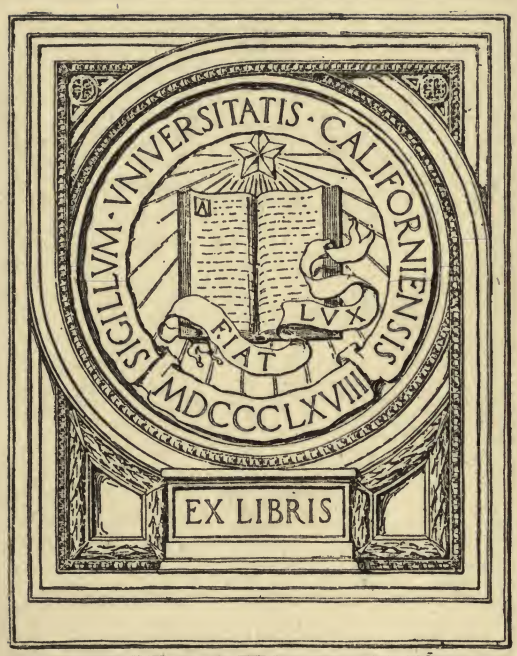
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MODERN SWIMMING

AN ILLUSTRATED MANUAL

BY

J. H. P. BROWN

WITH FORTY DRAWINGS BY

A. A. JANSSON

UNIV. OF CALIFORNIA

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PREFACE

The annual toll paid to Neptune in valuable lives should be a sufficient incentive for every one to learn how to swim.

Every child above the age of five years, as well as every adult, should be perfectly at home in the water.

The teaching of swimming should be made compulsory in every school and a perfect knowledge of it exacted of all who have the management of vessels, as well as of those employed thereon.

As a preventative of disease as well as an up-builder of the body and a moulder of form it stands without a rival among all the systems devised for the purpose of physical care and perfection. It is likewise a powerful agent for the development of the mind and will, as likewise the suppleness, activity and precision of the body in its action.

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The delicate in constitution, as also the deformed, will find in it a genuine panacea.

The proper place for its exercise is in the open and not in a swimming-pool. The reason is, or should be, perfectly plain to one who will give the matter a little thought. Disease is most readily communicated through the skin. At the risk of being considered censorious I would advise reflection before patronizing any kind of swimming-pool. Who would wash in the same bath-tub at the same time with another person, even though there were a good current of fresh, clean water running through it all the time? What is the difference, even though the swimming-pool be large? The swarms of human beings that employ them at the same time make the danger or the unpleasantness of the thought none the less. Moreover, free, open air and not wholly or partly vitiated air is absolutely essential to obtain value from the exercise.

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MODERN SWIMMING

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CHAPTER I

HOW TO LEARN TO SWIM

Any person over five years of age may become a good swimmer. Some learn quickly, others take time.

A false stroke is hard to get rid of, so care should be exercised from the beginning to do every movement properly.

Take time to learn and you will advance much more rapidly.

The proper place to begin is in the open, because, aside from hygienic reasons, you are brought face to face with a variety of conditions, which you have to meet and which will give you the necessary nerve to carry out what is required of you, so that you may learn readily and properly.

First learn how to float and ascertain the buoyancy of your body. This knowledge will give you confidence to start the different strokes, for these are all taken from one or the other of the three floating positions.

Breathe properly. The nose, not the mouth, is made to breathe with.

Relax thoroughly. This is the whole secret of healthy, competent and pleasant natatorial pastime. Tension tires, arrests progress and injures the system.

Lack of mental control, raising the arms above the head and rigidity of the body are the sure roads to a watery grave.

When you have ascertained how easy it is to sustain the body above the water in the different floating positions, you will be ready to graduate with ease and confidence to the various strokes employed in swimming.

SUMMARY. *Good breathing, relaxation, buoyancy.*

CHAPTER II

FLOATING AND RELAXATION

You cannot float unless you relax. Relaxation may be termed the key-note to all forms of buoyancy and propulsion in the water.

BACK-FLOATING. This is the easiest form of floating and shall be the subject of our first lesson.

Do not hesitate, go right at it. Walk out into the water up to the waist-line, squat down slightly upon the legs and facing the open fall backwards so as to lie upon the water. The head must hang loosely and sink to the opening of the ears; the arms should lie by the sides. Do not bother about the legs; if they are kept relaxed, they will take care of

themselves. If upon the first impact with the water the head should sink so as to submerge the face, keep relaxed and remain perfectly quiet and the body will balance itself so as to make you feel at ease.

Fill the lungs as you drop to the surface: exhale when you are comfortably positioned upon it, after which you should breathe naturally. By practising deep breathing in this manner you will dispel much of the nervousness the first attempt to float generally causes.

Never retain the breath; this is done only after death. A regular intake of air as well as outlet of it is absolutely essential to health. While upon the back keep the mouth shut; with each inhalation and exhalation allow the chest to contract and expand to its fullest capacity.

Several trials will convince you that your body is better able to float than to sink. This knowledge will make the at-

tempts at the other forms of floating easy.

The reason the head must fall well back and be submerged is to balance the body and thus aid in general relaxation.

Do not put cotton in the ears. Clean water is beneficial; in fact the orifice of the ear needs cleansing as well as any other part of the body. If you are bathing in salt water you have one of the most salutary antiseptics as well as cleansers.

Should you be lacking in buoyancy because of heavy bones, you may successfully aid what you have by fanning the water with the hands, well under the water and by the sides. This is done by simply revolving the hands upon the wrists. The fingers should be kept close together and the hands well open in this movement, as well as in all others where they are employed for propulsion. If your position in the water is correct, you

can, by keeping up this movement, float indefinitely.

Figure 1 shows the exact poise of a properly balanced body upon the surface of the water.

SYNOPSIS

Lie upon the back in the water.

Relax thoroughly.

Allow the head to drop so as to cover the ears.

Breathe slowly and through the nose.

Inhale as you fall upon the back and exhale as soon as you are comfortably positioned.

Keep the arms by the sides and under the surface.

The legs will take care of themselves, if relaxed.

The top of the head should point to the shore.

The depth of the water under the head should be the same as the distance between the waist-line and the feet.

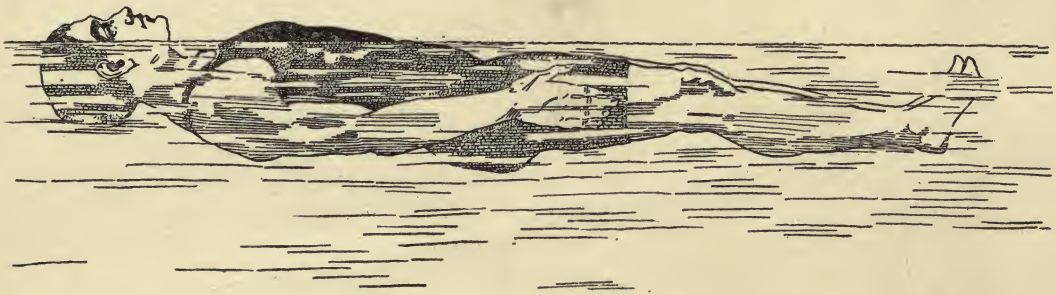

Figure 1

BACK-FLOATING POSITION

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FLOATING AND RELAXATION

As soon as you feel perfectly at ease in the back-floating position, alternate the positions of the arms as follows: first, extend them to right angles with the sides; second, clasp the hands together, fingers interlaced, and place them under the head, with the elbows flat upon the water; third, fold the arms over the chest; fourth, lay the hands across the abdomen; fifth, cross the arms under the back; sixth, bring the forearms to right angles with the upper; seventh, hold the arms straight above you.

STOMACH-FLOATING. Step out into the water up to the waist-line and fall forward on to the stomach, facing the shore. The face should be submerged up to the backs of the ears. Breathe in deeply as you fall forward and exhale under the water. Keep all parts thoroughly relaxed. As soon as you feel obliged to breathe in, raise the

head to do so, when it should again be immediately dropped so as to exhale as before.

Figure 2 shows the proper position in Stomach-Floating.

SYNOPSIS

Face the shore and fall forward.
Breathe in as you drop to position.
Exhale under the water.
Keep well relaxed.
Raise the head to inhale and drop it back quickly to exhale.

SIDE-FLOATING. This is the most difficult manner of sustaining oneself above the surface and in correct position because of the difficulty experienced in keeping the body balanced.

Take the back-floating position. Turn the head so as to have either side of the face on the water. Bring the arm and leg of the opposite side to which it lies upon, over in front of the body. As

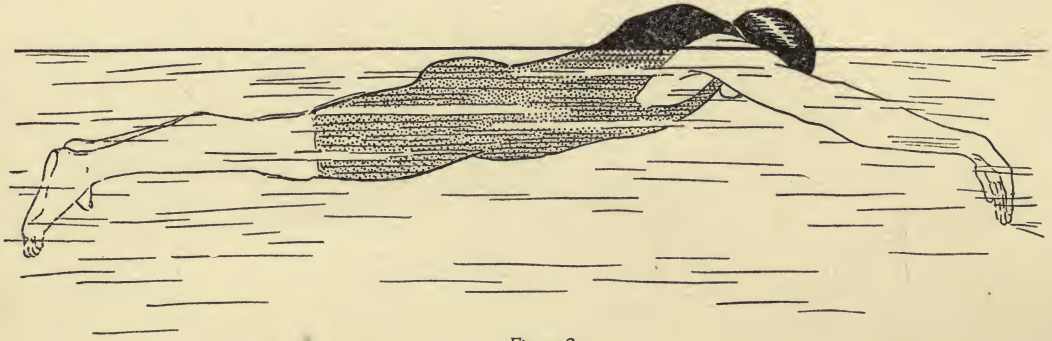

Figure 2

STOMACH-FLOATING

soon as you have turned sufficiently, balance by moving the arm or leg backward or forward. When you have the proper position straighten out the upper leg so as to lie directly over the under one and the upper arm to repose upon the side. Be sure to avoid tension. The lower corner of the mouth should be laved by the water, and no tension of the neck muscles permitted. Breathe in as you turn; exhale when you are properly positioned.

SYNOPSIS

Start to turn from the back-floating position by first turning the head.

Bring the arm and leg over.

Balance by either the forward or backward movement of either the upper leg or arm.

PERPENDICULAR - FLOATING. This form of demonstrating buoyancy is one that requires a knowl-

edge of swimming before attempting it, but as it belongs to this chapter it may be just as well to explain it here.

Swim out into deep water and assume an upright position by allowing the legs to drop so as to bring the body to an upright attitude. Hold the arms close to the sides. Fill the lungs to their greatest capacity. Exhale slowly. As soon as you have established your balance breathe naturally.

As the various positions in floating are the initial steps to all forms of propulsion in the water, they should be thoroughly mastered. A disregard for proper poise and relaxation will cause much annoyance in your efforts to become graceful and efficient in the different strokes.

To rise from either the back- or stomach-floating positions it should always be borne in mind that the head leads the body. If you are upon the back raise

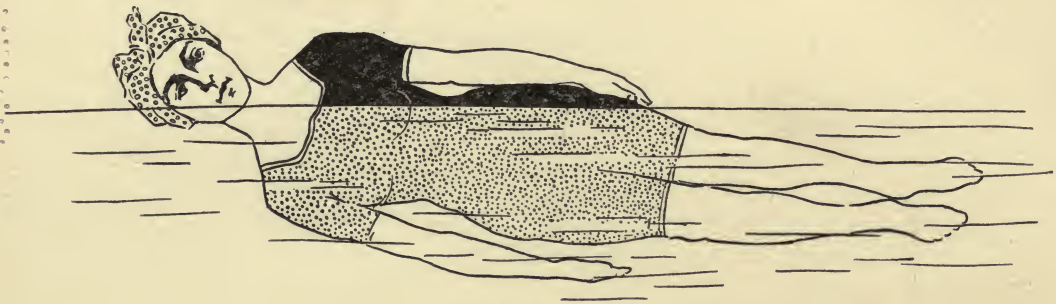

Figure 3

SIDE-FLOATING POSITION

the head and allow the knees to flex so as to be able to kick backward under the body and thus assist it to an upright position. If you are in the stomach-floating position simply allow the legs to sink; at the same time draw them towards the abdomen so as to be able to kick downward as the head is raised from the water and stretched back between the shoulders.

Life-belts should never be used; wings, safety appliances, etc., are sure to produce bad habits and to lessen confidence as well as make you too dependent upon outside assistance and should be eschewed.

CHAPTER III

PROPER POSITION; DELIBERATE MOVEMENTS; THE WRIST-TURN

All strokes are taken from the floating positions just explained.

Relaxation of all parts of the body is imperative.

The body should at all times lie perfectly at ease and flat upon the water. When any section drops from the horizontal it acts as a brake, impedes progress and tires the swimmer.

Tension quickly exhausts and makes speed impossible.

Improper attention to coördinated breathing with the various movements makes swimming irksome and defeats the object for which it is indulged in.

Movements without deliberation are like a mind without will power.

A splendid illustration of the results of improper position and absence of relaxation may be seen in the efforts which are made by the improperly instructed individual to keep his head out of the water. He makes no headway, tires himself out, lacks graceful action and ends by pronouncing the art a failure.

Straining the neck muscles to keep the head out of the water, as well as presenting either the chest or shoulders against the water, is equivalent to forcing a wall against it, consequently arresting progress and throwing the lower section into a position to act as a further impediment to advance. All tired backs come from these errors.

At the start take all strokes slowly, with ease and grace but without attempts at affectation.

In presenting the limbs for a stroke

never overlook the necessity for as little resistance as possible to the water in doing so. Cleave the passage for the body to follow as though you were opening it with the point of a knife. Do not present the open hands, point out with the fingers. Never advance the surface of the arms, let them follow the opening made by a well directed hand. Likewise with the legs,—draw them up so as to offer as little resistance as possible.

In pushing the water back of you employ all the force you wish.

In drawing the legs up in recovery straighten the feet back from the ankles.

The rotation of the hand upon the wrist bears a very important relation to speed and should be assiduously practised. It is employed in all the arm strokes.

In the chest- back- and side-strokes present the hand as shown in Figure 4, —that is, draw the arms back to that

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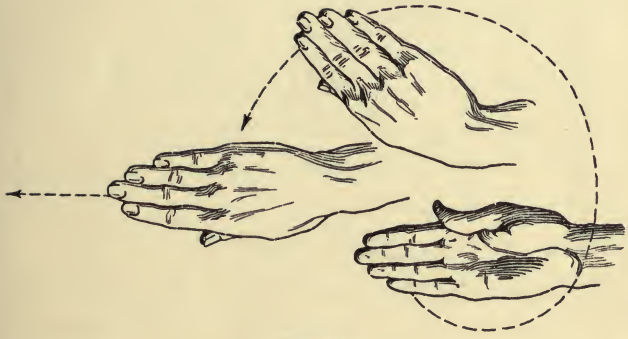

Figure 4

THE WRIST-MOVEMENT

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point where the return for recovery is to be made, then start to revolve the hand with an inward, downward and forward action, then, cutting the water with the pointed hand, urge it forward to the limit of its reach.

In taking an over-the-water-stroke always open it with a straightened-out hand and the finger tips. Do not take it with a slap upon the surface with either the palm of the hand or the forearm.

The wrist-action embellishes the style, increases the speed and minimizes muscular effort.

Make all movements rhythmetrically and not in jerks.

Avoid taking a chest-arm-stroke when swimming on the side.

In the side-strokes the under arm should never come above the surface of the water in its reach forward for delivery.

Bobbing up and down should be carefully guarded against and an even keel always maintained, no matter what stroke is being used.

A pretty swimmer makes but little commotion in the water and leaves very few ripples upon its surface after he has gone through it.

If you have mastered the different floating positions and will bear in mind the few admonitions and rules given, you are ready for your first effort to propel yourself through the water; in other words, to graduate from the back-floating position to the back-swimming movements, which will be the subject of our next lesson.

In Figure 4 the gradual rotation of the wrist is illustrated. The upper outline of the hand shows it as it has finished its delivery. As it drops it revolves upon the wrist, as shown by the dotted lines, coming upward as in the

lower drawing to the position shown by the middle description of the wrist-action, when the hand is once more ready to shoot forward in recovery.

CHAPTER IV

HOW TO SWIM ON THE BACK

BACK-SWIMMING. First, take the back-floating position: arms by the sides, legs straight, with the feet in line with the shin-bone.

Second, turn the legs on to their sides, so that the knees point outward and the heels touch.

Third, draw the legs up toward the body by gradually flexing the knees and keeping the heels touching.

Fourth, bring the feet to right angles with the shin-bones, at the same time turn the legs to the knee-up position.

Fifth, kick out to the sides with the soles of the feet, as though you were actually pushing against a wall.

Sixth, bring the feet to the stretched-

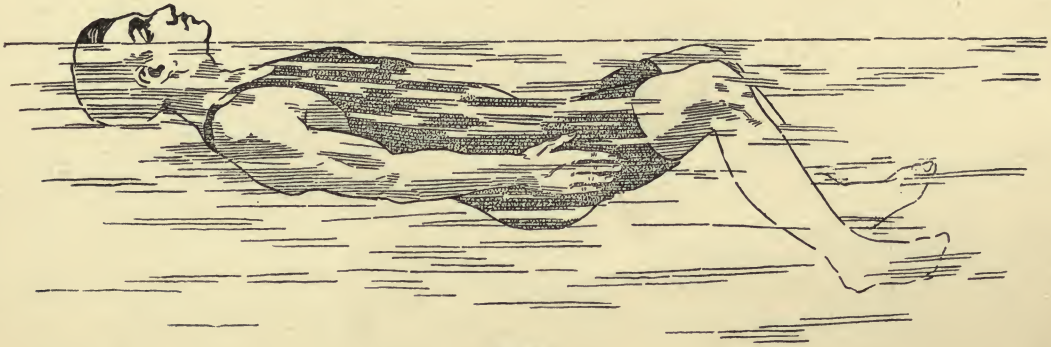

Figure 5

BACK-SWIMMING: LEG START

back position and the legs together with force.

Seventh, repeat until thoroughly mastered, being very careful of the stretched-back position of the feet on their recovery.

Each delivery should urge the body forward at least half of its length.

The next move is to combine the arms and legs, which is done as follows:

First, bring the arms up from the sides with the recovery or drawing-up movement of the legs. In doing so glide them over the chest and face out as far in front of the top of the head as you can reach.

Second, turn the hands back to back and with the straightened-out arms return them to the sides in unison with the leg-kick.

In reaching forward for delivery the arms should be kept close together, so that the palms of the hands touch as they pass over the chest and face. Likewise,

the arms must be kept close to the body and not raised above it in their passage to beyond the head.

Never show the knees above the surface; this is very bad form.

Maintain the back-floating position all through the movements,—that is, keep the head low in the water.

Figure 5 illustrates the start of the legs in their recovery. Figure 6 shows the arm movement.

SYNOPSIS

Take the back-floating position. While drawing up the legs bring up the arms and, carrying them over the body, reach as far forward of the head as possible. Deliver the strokes and repeat.

Another manner of taking the arm-stroke is to raise the arms completely out of the water and thus carry them over the body and beyond the head, dropping them with the hands back to

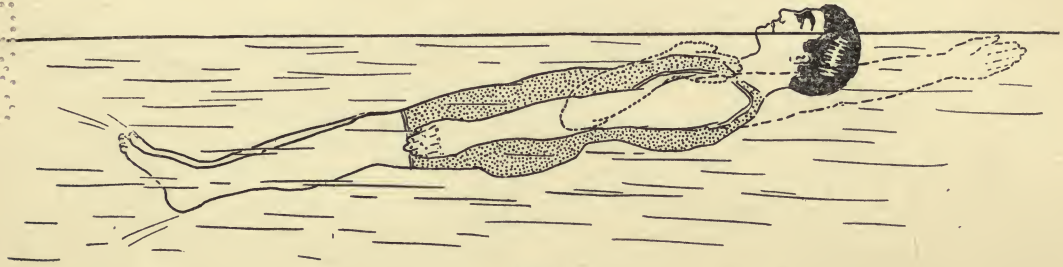

Figure 6

BACK-SWIMMING: ARM MOVEMENT

back into the water and making the delivery. The outer edges of the hands must cut the water and care must be taken not to splash.

Considerable speed may be obtained upon the back by simply kicking the straightened-out legs up and down alternately, with the feet in the stretched-back position. Both arms should rest by the sides, and if employed at all they should only move from the fore-arm and the wrist. This movement is known as propelling with the hands and is done by revolving the hands upon the wrists with a downward, inward and upward action.

Figure 7 shows the position of the arms before delivery, which begins with their drop into the water. They should never strike the surface at right angles to the sides.

CHAPTER V

THE CHEST-STROKE

The chest-stroke is similar to that taken upon the back, only that the position of the body is reversed.

The main features not to be lost sight of in this style of swimming are proper coördination of the arms and legs, proper breathing and complete strokes.

Always bring the arms close into the sides at the conclusion of their delivery and bring them well up under the chest for their recovery or forward push.

Figure 8 shows the arm action. The forearms are raised to start the stroke; the dotted lines show the position of the arms when forward of the head, preparatory to taking their backward course; the indicated lines down the side to the

Figure 7

BACK-SWIMMING: POSITION BEFORE DELIVERY

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hip show the relative length of the backward delivery before taking the circular sweep for their forward stroke.

CHEST-SWIMMING-STROKE

First, take the stomach-floating position.

Second, raise the face from the water and extend the arms forward of the head, palms of the hands touching.

Third, turn the hands and bring them back to the sides for recovery.

Fourth, when the arms in their backward movement are in a line with the shoulders and are ready to make their downward curve, the legs, as will be seen in Figure 9 are well on their recovery.

Fifth, as the sweep of the arms is concluded the legs will have kicked out so as to form the letter Y of the body.

Sixth, the legs come together with force as the arms shoot forward for delivery.

The dark drawing in Figure 9 explains the chest-stroke in showing the outward position of the knees, the backward direction of the feet from the ankles and the separation of the legs as they are being drawn up. The dotted outline shows the position of the body after raising the head from the water to begin the stroke.

BREATHING. Inhale as the arms open out. Exhale as they come into the sides and shoot forward for their delivery. A splendid practice for beginners is to take one long breath, inhalation and exhalation, with each delivery and recovery of the arms.

SYNOPSIS

Take the stomach-floating position.

Bring up the arms under the chest with the hands palm to palm.

Simultaneously with the advance of the hands draw up the legs.

THE CHEST-STROKE

Bring back the arms and kick out the legs.

While curving the hands in for the next recovery bring the legs together.

CHAPTER VI

THE ENGLISH SIDE-STROKE

The English side-stroke is both a graceful and rapid way of getting through the water.

First, take the side-floating position.

Second, bend the lower section of the under leg so as to bring it to a right angle with its upper or thigh portion. Flex the ankle and with a vigorous kick snap it into line under the upper leg, so that the toes will touch the heel of the other foot.

Third, advance the upper leg with a hip action, knee flexed. When the limit of the reach is attained straighten out the lower section of the leg and deliver the kick by forcing the water down and

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Figure 8

CHEST-SWIMMING

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back of the body. Finish the stroke by straightening out the foot and leg and by bringing them back to the first position.

Fourth, after you have exercised both legs separately so as to have the movements under control, practise them together so as to acquire what their action will indicate, "the scissors kick."

Fifth, combine the arms with their movements, which is done as follows:

First, advance the under arm beneath the water to beyond the head as far as you can reach, keeping the fingers close together and the hand well open.

Second, draw the arm back to its place under the hip.

Third, carry the upper arm forward and close to the chest and reach out beyond the head as far as possible.

Fourth, the arms alternate in their recovery so that when their respective strokes are half done the one in re-

covery meets the other as it is half through its delivery.

Fifth, in combination with the legs the upper arm keeps time with the under leg and vice versa. In other words, when the upper arm moves forward the under leg advances to take its backward kick with the return of the arm. Likewise with the opposite arm and leg.

The under hand should never be brought to the surface in its reach forward.

Avoid bobbing up and down.

Never extend the arms away from the body either in delivery or recovery. Keep them close up to the chest.

In opening the legs do so slowly. Employ force in bringing them to position.

SYNOPSIS

Lie on your right side; strike out with the left arm and right leg. Bring them

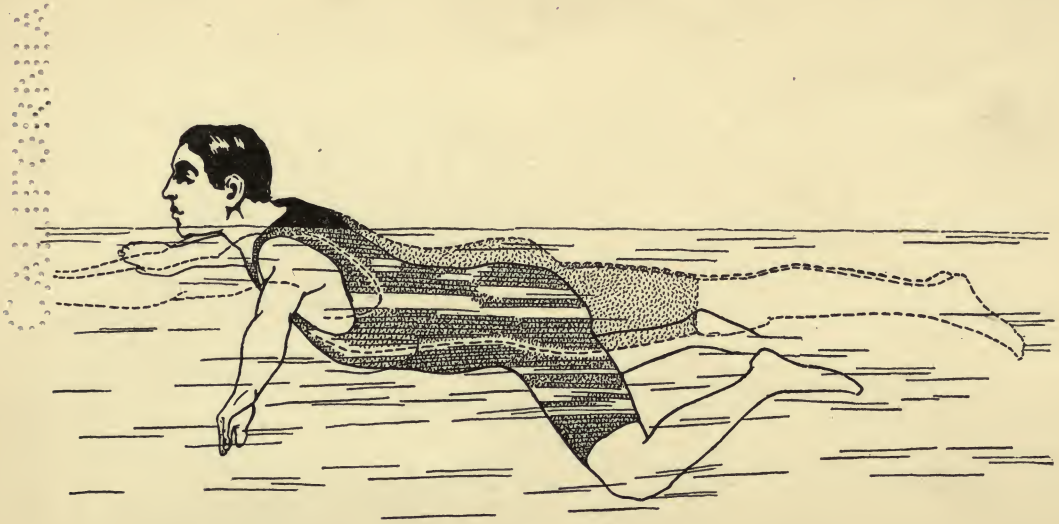

Figure 9

COÖRDINATION OF THE LIMBS IN THE CHEST-STROKE

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back to first position while advancing the opposite arm and leg.

Breathe naturally, inhaling as either arm reaches forth for its delivery: exhale as it comes back to its first position by the side.

The action of the limbs in the side movements of propulsion are very much as if you were to lie upon your side on the floor and try to urge your body on by alternating the steps against a supposable moving wall.

CHAPTER VII

THE AUSTRALIAN STROKE

The only difference between the Australian stroke and the English side-stroke is that the upper arm is brought up out of the water and over the body for its recovery.

First, take the side-floating position.

Second, start off with the English side-stroke.

Third, after having made two or three such strokes, raise the upper arm out of the water from its position on the side and carry it for delivery as far beyond the head as you are able to reach, making the delivery the same as in the English side-stroke.

Fourth, be careful in dipping the hand

Figure 10

PROPER POSITION TO START THE CHEST-STROKE

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at the conclusion of the recovery not to spash the surface with either the open palm or the forearm.

BREATHING. Inhale with the reach of the upper arm, exhale with its descent.

A very graceful as well as very effective movement may be obtained by alternating the position of the body by turning from one side to the other. This is done with the reach of either arm. This is not the trudgeon-stroke but will give an easy introduction to it. The legs may either be utilized or simply allowed to drag after the body.

CHAPTER VIII

THE TRUDGEON STROKE

The trudgeon stroke is the most difficult stroke to master, but as it gives considerable speed it is a very popular one.

First, take the stomach-floating position.

Second, bring the right arm up out of the water, raising the shoulder as you do so, and reach over sideward and forward as far as possible for delivery.

Third, in reaching for delivery bring the legs up, widely separated.

Fourth, when the delivery of the right arm is half finished and the opposite arm is ready to recover and turn the body over to the opposite side, the legs

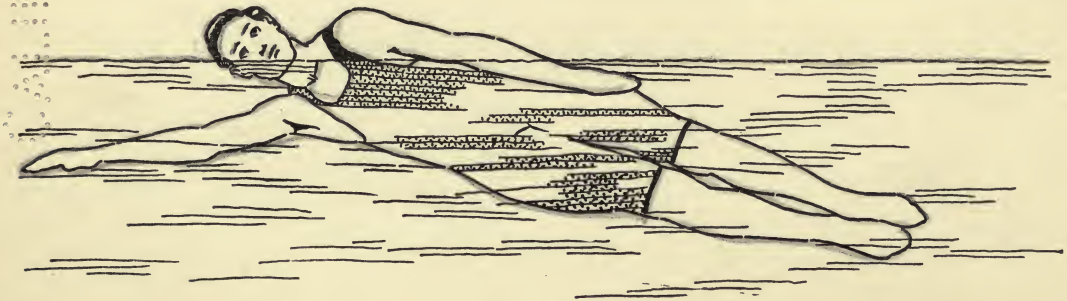

Figure 11

SIDE STROKE: STARTING-POSITION

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should be ready to kick; they should close together and straighten out, and must have done so as the under-arm stroke is completed.

Fifth, repeat on turning to the opposite side.

Sixth, be careful to dip the fingers pointedly and without splashing.

Seventh, breathe in as either arm advances and the face turns up from the water with the roll of the body; exhale under the water.

The kick in this stroke is a compromise between a full chest-stroke action and the scissors kick, the legs accommodating themselves to the swaying movements of the body.

Care should be taken to point the toes backward in the leg recovery, and to present the soles of the feet in their delivery.

The more widely the legs are separated when drawn up, the greater will be the momentum given the body in pro-

pelling it through the water when they close together again.

In the illustration it will be seen that the kick has been given; the body has turned over on to its side; the legs are ready to open with the downward completion of the right arm's delivery and the raising of the left arm for its reach.

SYNOPSIS

Take the side-floating position, left side.

Reach forward with the right arm; at the same time separate and draw up the legs.

When you are about to turn on to the side and the right arm is half through its delivery, kick and bring the legs together.

In reaching with the left arm draw the legs up for delivery as you did with the other arm.

Breathe in with the arm-reach and out with its delivery.

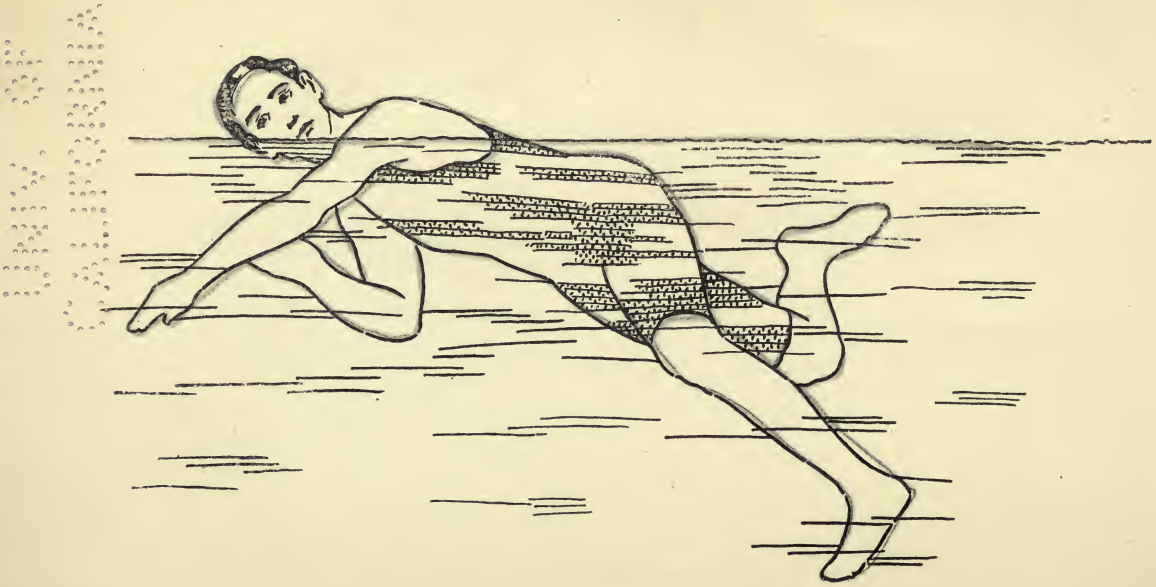

Figure 12

SIDE STROKE: LEGS AND ARMS AT HALF-STROKE

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Be careful to avoid splashing and to bring the arms from the water without either resistance or noise.

For the purpose of illustration in Figures 15 and 16 the head is shown above the water, whereas in swimming the trudgeon it must lie in the water as in the crawl stroke. For the beginner it will be found easier to learn the arm movements and roll, with the head as in illustrations.

CHAPTER IX

THE CRAWL-STROKE

The crawl-stroke is the most modern and at the same time the most rapid stroke. It requires unlimited endurance, breathing capacity and activity.

First, take the stomach-floating position.

Second, keep the body flat upon the surface, the feet about six inches apart and the toes in direct line with the shinbones.

Third, hold the legs rigid and thrash them up and down without bringing them to the surface or permitting them to sink more than four inches. During this movement the arms should be held straight out before the upraised head.

Fourth, drop the face into the water

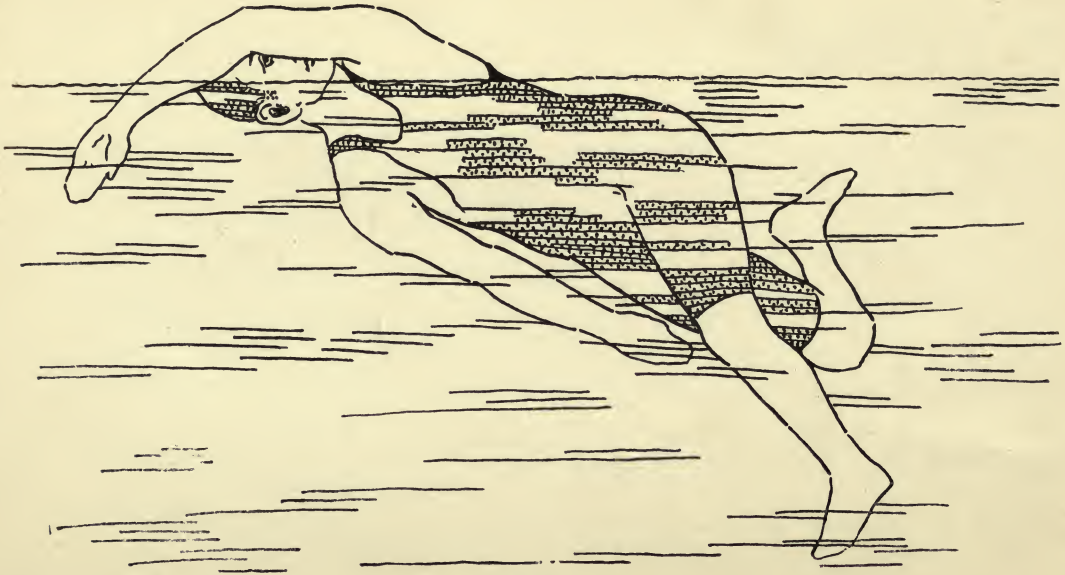

Figure 13

THE AUSTRALIAN STROKE

and combine the arms and legs in their movements as follows: with the dip of the right arm immediately in front of and to the side of the head, strike the water with the left foot.

Fifth, the head, which should lie with the face under the water from the moment the stroke is begun, should be raised so as to take in breath with every fourth or fifth stroke of either arm.

Sixth, alternate the arms with precision and regularity and put power and speed into your movements.

Exhalation is done beneath the water. The head is turned slightly to either side in inhaling, which must be done quickly.

When the arm dips the opposite leg thrashes. The delivery is complete when the hand has reached the hip. The forearm acts as a paddle in pushing the water back of the body and should act in exactly the same manner as if you were paddling. The greater the activity and force put into your movements

and the less the resistance that would be offered by a properly poised body, the greater the speed.

Avoid presenting the surface of the forearm when dipping; the pointed fingers should open the water for the arm to follow.

Never reach beyond the head.

Keep the body perfectly flat upon the surface, with the face submerged so as to allow the head to be in line with the back.

Conclude the arm delivery by a decided push against the water and withdraw it so as to offer as little resistance as possible.

SYNOPSIS

Take the stomach-floating position, arms stretched out in front of the head, face submerged.

Dip the right forearm in line with the side and top of the head and thrash with the opposite leg.

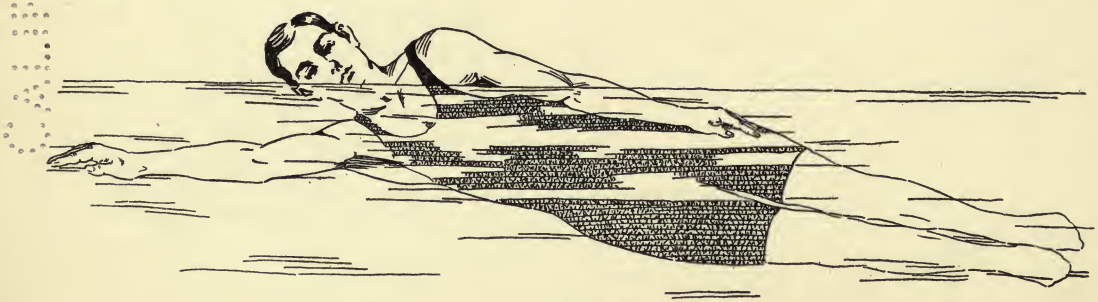

Figure 14

PROPER POSITION FOR THE AUSTRALIAN STROKE

Alternate arms and legs as rapidly as possible.

Raise the head at intervals so as to take breath. Exhale under the water.

A modification of the crawl may be obtained by turning the upper half of the body from side to side while employing the trudgeon arm-reach but maintaining the crawl thrash of the legs, opposite arm to opposite leg.

CHAPTER X

THE CORKSCREW; TREADING WATER; THE PENDULUM; THE LOG-ROLL

THE CORKSCREW. First, take the back-floating position.

Second, raise either arm out of the water and carry it crosswise over the body and out beyond the head as far as you can reach, allowing the body to roll over as you do so.

Third, as you come to the face-down position, reach over the back in like manner with the other arm, thus bringing the body back to the back-floating position.

Fourth, repeat quickly and employ the trudgeon-stroke in the leg movement.

Figure 15

THE TRUDGEON STROKE

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TREADING WATER. First, take the perpendicular-floating position and relax thoroughly.

Second, keep up a fanning movement with the hands.

Third, step out as in walking.

Fourth, breathe in long and deeply and exhale slowly.

THE PENDULUM. First, take the back-floating position.

Second, interlace the fingers back of the head.

Third, allow the feet to sink slowly and the head to rise from the water; at the same time extend the arms above the head as you gradually fall forward to the stomach-floating position.

Fourth, reverse the movement and return to the back-floating position.

The main feature in this action is the breathing. Fill the lungs to their greatest capacity and exhale as you fall forward.

THE LOG-ROLL. Lie on your back and roll over and over in whichever direction you desire. To do this prettily you must keep the arms well up by the sides and by maintaining a perfectly relaxed body, allow the head to lead it.

The intake of air is done quickly as the face comes up and the exhalation as it goes under the water.

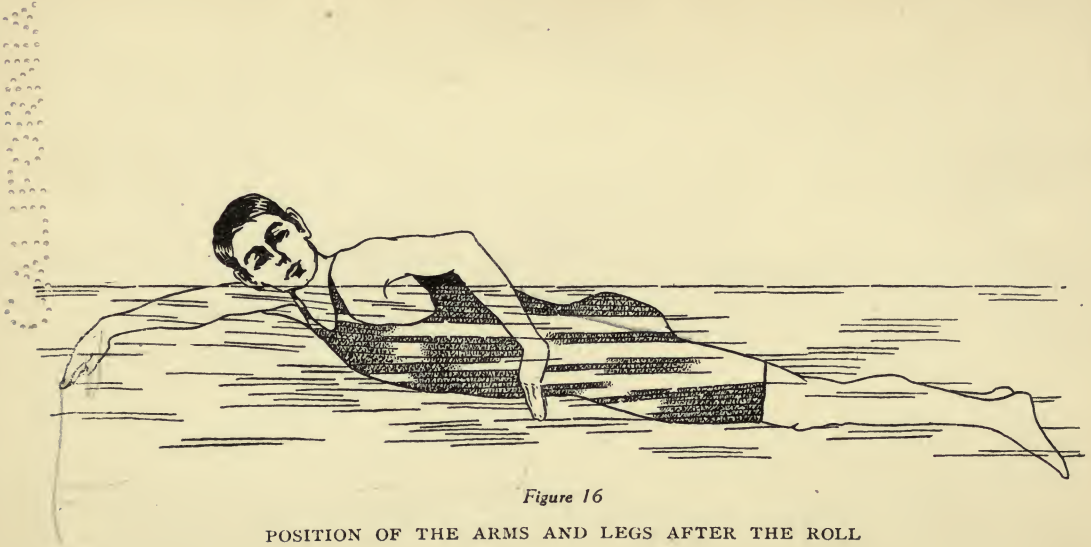

Figure 16

POSITION OF THE ARMS AND LEGS AFTER THE ROLL

CHAPTER XI

WATER-DIVING

The class of diving here described is done in the water, not from a foothold out of it.

FORWARD - HEAD - FIRST-DIVE. First, this is taken from the stomach-floating position by raising the upper portion of the body by pressing down upon the water with the hands and lifting the head well up from the surface: thus a momentary support for the dive is obtained.

Second, shoot the arms quickly out and downward in front of the head, which simultaneously falls upon the chest, as the tips of the fingers touch the surface.

Third, the legs should be drawn up at

the moment your arms reach forth and a forcible kick backward be given with the arm-delivery so as to urge the body out of sight, when you can swim under the surface until you feel disposed to repeat.

Figure 19 shows the position of the body just before the dive. The legs are ready to kick out and the arms to deliver. The dotted outline shows the proper action of the limbs after disappearing. After the kick, you should draw the legs together and straighten them, preparatory to repeating the movement beneath the surface.

THE WATER PORPOISE. When this is taken in deep water it is merely a repetition of the previous one, the only difference being that the head and feet disappear and appear at regular intervals.

The breath is taken during the short moment that the mouth is out of the water, as the body comes up and goes

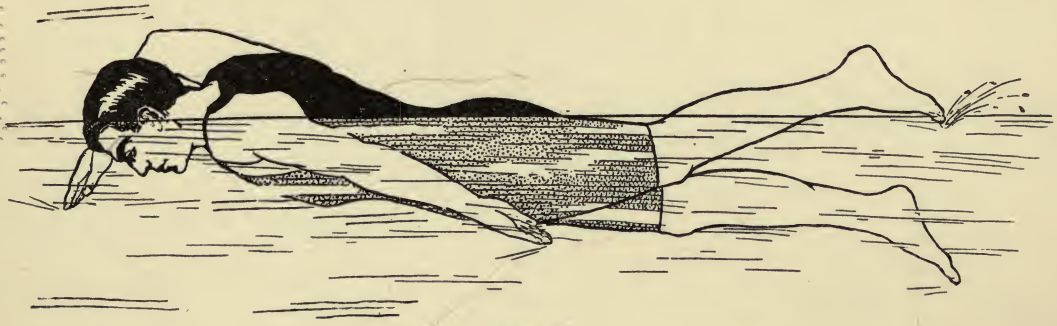

Figure 17

COÖRDINATION OF THE ARM AND LEG IN THE CRAWL-STROKE

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under. Exhalation is done beneath the surface.

This movement requires a lithesome, sinuous body, good breathing capacity and is wholly dependent upon suppleness, endurance and relaxation.

THE REGULAR PORPOISE. This is done in water from six to eight feet in depth and is splendidly illustrated in Figure 21. The whole secret of propulsion lies in the impetus acquired from the crouching attitude to carry the body up, over the surface and down again to the first position, which of course is produced by the vigorous spring taken.

The dive may be started from either a spring-board, the shore or the water.

On reaching the bottom the crouching position should be instantaneously taken and the upper spring made. The head should be held in line with the direction of the body and dropped to the chest as it emerges from the water. The arms should lie close to the sides and the legs

be held straight and kept close together as they follow the body.

When the body has disappeared beneath the surface you may employ the arms and legs to aid you in getting momentum to bring you back to the crouching position.

There must be no splashing. Enter and leave the water noiselessly.

The spring from and return to the bottom should advance your position at least ten or twelve feet each time.

You should come to the surface with regularity, say at least once in ten seconds.

SINGLE, DOUBLE, TRIPLE SOMERSAULTS. Take a head-position. As the head enters the water double the legs up under the abdomen and with a rapid, circular arm-movement draw it toward the chest. This first dive from the stomach-floating will bring you in a position to repeat, which may be done *ad libitum.* With

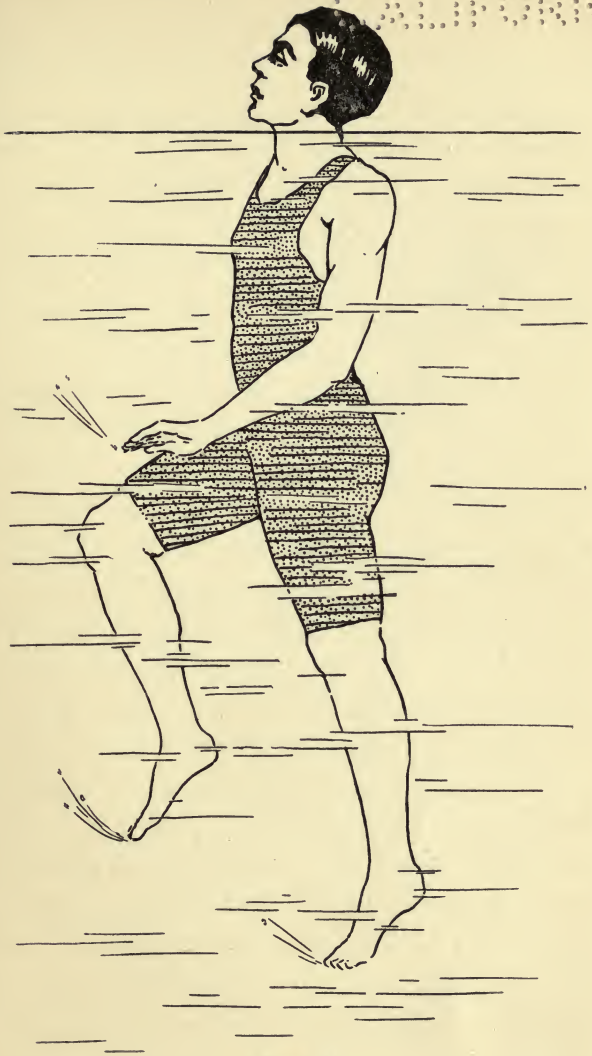

Figure 18

TREADING WATER

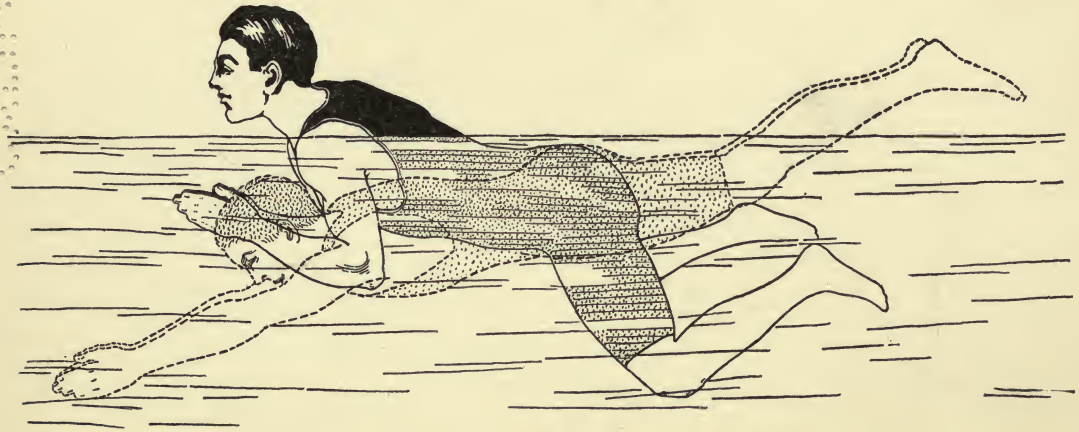

Figure 19

THE WATER-HEAD-FIRST-DIVE

each rise of the head straighten out the legs so as to be able to employ them as a propelling force for the next somersault. The chin should always drop to the chest the moment you dive and the breath be taken in quickly as you do so and exhaled under the water.

THE BACKWARD SOMERSAULT. Take the back-floating position. Throw the head well back and quickly double the legs over the abdomen and at the same time throw the arms back of you so as to grasp the water to assist you still further in making the turn. As soon as the head rises to the surface, straighten out the legs and throw it back so as to repeat.

TO SINK FEET FIRST, PERPENDICULARLY. Take the standing-floating position. Raise the arms up and over the head and, pointing the toes downward, gradually exhale the air from your lungs as you sink gracefully out of sight.

SCULLING. Balance the body upon the surface in either the back- or stomach-floating position, arms close to the sides. Start to rotate the hands and forearms on the wrists and elbows, with an inward, backward action. Perfect relaxation is imperative for success in this action.

You may increase the speed thus obtained by stiffening out the legs and thrashing the water as in the crawl-stroke.

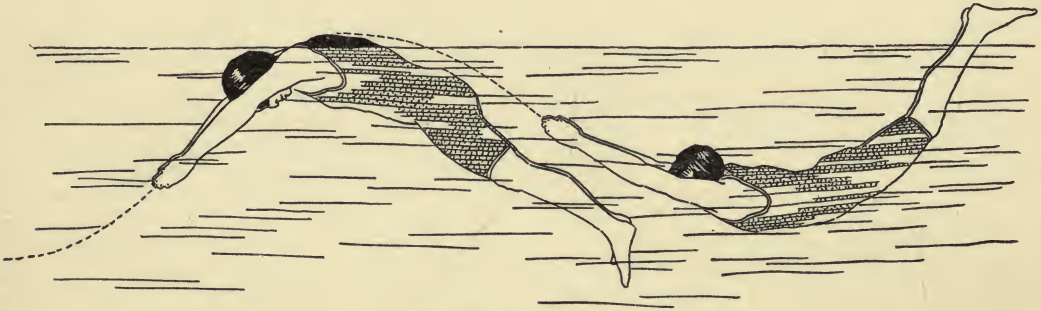

Figure 20

DEEP-WATER PORPOISE

CHAPTER XII

DIVING

STANDING - FEET - FIRST-DIVE. Stand erect, arms by the sides, legs together, knees touching. For the spring to leave the board flex the knees once or twice, coming upon the balls of the feet in rising, and jump out with the body perfectly straight so as to take the water toes first.

Do not permit the knees to double up or the legs to separate after you have left the point of departure and be sure to keep the arms well by the sides until you have disappeared beneath the surface. When you feel that you have sunk far enough bring the arms and legs into play so as to swim up and repeat.

Before going under the water be sure to fill the lungs. Exhale slowly as you drop out of sight.

A variation of this dive is obtained by raising the arms above the head, with the palms of the hands touching, and in holding them thus until you are ready to come up.

HEAD - FIRST - FORWARD-STANDING - DIVE. Stand erect, legs together. Raise the arms over the head and either interlock the thumbs or bring the palms to touch. Keep the fingers straight and together. Rise upon the balls of the feet from a knee-flexed position and jump forward with a downward inclination of the head.

In the descent do not raise your head or you will strike the surface on your face and stomach.

On leaving the board straighten out the legs and feet and keep them together. Never permit the legs to separate or bend once you have left the board.

Figure 21

THE REGULAR PORPOISE

Figure 22

FEET-FIRST-DIVE

In taking a shallow or scoop dive you enter the water more horizontally. This is done by urging the body outward from the board and by holding the head almost in a line with the back. The hands should be well opened, the palms down and the tips of the fingers turned slightly upwards. The thumbs should be interlocked and should not separate until after you have come to the surface. The position of the hands and direction of the head control the direction of the body in the water. You may gauge the shallowness of your scoop by the upward curve of the fingers and the inclination of the head.

This dive may be varied by keeping the arms close by the sides from the moment of departure until you once more come to the surface. This is sometimes called the sailor's-dive.

THE STANDING-BACK-DIVE. This is rather a difficult dive to perform

and requires considerable pluck and patience to master.

Stand erect, legs together, arms by the sides, face toward the raft, head and upper portion of the body well bent backward. Rise upon the balls of the feet and, from the spring afforded by the flexed-knee action, leave the board so as to take the water head-first. As the head leads the body it must be kept in the same position as it is when you jump and under no circumstances allowed to come to an upright line with the back.

Enter the water with the arms by the sides and the legs straight and together and without splashing.

Should you so desire you may employ the arms so as to aid you in obtaining a backward and downward direction. This is done by throwing them over the head with a swing from the sides as the upward spring is made with the legs.

When you have become sufficiently

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Figure 23

HEAD-FIRST-FORWARD-STANDING-DIVE

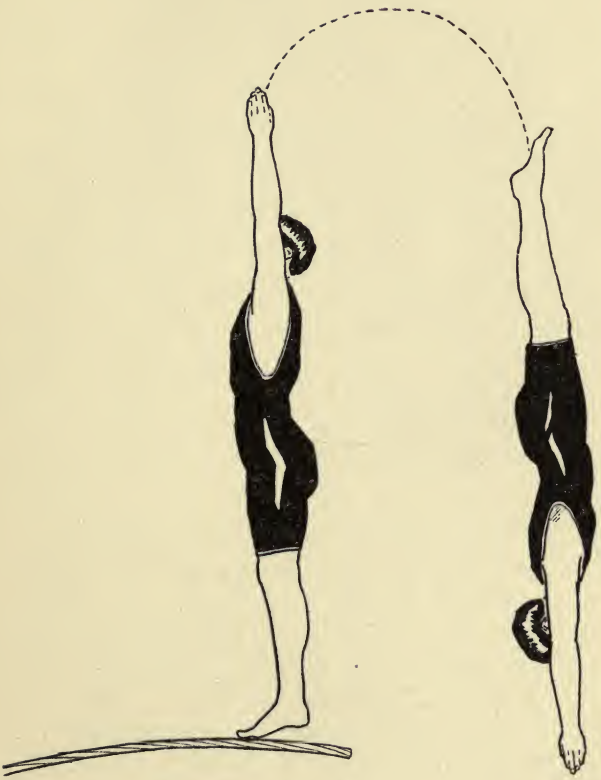

Figure 24

THE STANDING-BACK-DIVE

proficient in taking the back-perpendicular-dive, you may try the back-scoop-dive, which is done by throwing yourself out horizontally from the point of departure.

THE SIDE-DIVE. Stand erect, legs together, arms extended above the head, palms of the hands touching, either side presented to the water.

From the knee-flexed position spring up and outward, with the body slightly curved toward the open. The entry should be clean and at an oblique angle not over the length of the body from the board.

Master the dive on both sides. Be careful to keep the legs straight and together with the feet turned back from the moment you leave the board until you have disappeared beneath the water.

This is particularly adapted to women and is a very effective and pretty dive when properly done.

You may vary this dive by keeping the

arms close by the sides and if sufficiently above the water take a side-sailor-dive. If the board is too low you may spring out horizontally and take the water head first.

THE WHIRL-DIVE. This dive may be done either with or without a run. It may be either a quarter-, half-, three-quarters- or a whole turn of the body. Or again it may be either one, two or more twirls in the air after you shoot out horizontally from the board.

Stand in the head-first-forward-dive position. As you spring into the air, shoot straight out from the board and begin the turn of the body, which should be finished by the time the momentum given by the spring is through and the head ready to take its downward course from its horizontal position in mid-air.

It is advisable to start with a quarter-turn, then to take a half-twist, finally graduating to the whole turn so that the head in taking the water does so face

Figure 25

THE SIDE-DIVE

Figure 26

THE WHIRL-DIVE

down. The higher the point of departure the better, as it gives one an opportunity to make the effort of turning before striking the surface of the water. A distance of about six feet from the board to the water will be ample.

THE FORWARD - SOMERSAULT. Much practice and patience as well as courage and limberness is required to acquire this "stunt." When it is once successfully done it will not be considered more difficult than any other. It may be done with either a run or from the standing position at the end of the board.

Face the open in an erect position. Spring upward and forward from the platform. Keep the legs together. The moment the feet leave their support the legs should be thrown over and back of the body so as to make a turn in mid-air which will permit you to enter the water, toes first, with the body in an upright position.

FORWARD - SOMERSAULT, HEAD - FIRST. Do the same as in the previous dive, with the exception that you should make an extra half-turn in mid-air so as to enter the water head-first.

THE HANDSPRING. If you are muscular enough to bring your body to an erect position upon your arms, you will find this an easy dive.

Bend the body so as to place the hands upon the extreme outer sides of the board, and straighten up the inverted body upon them. Slightly flex the elbows once or twice so as to obtain the required spring to clear the board, then stiffen the legs upward, toes pointing, and drop into the water.

The dive may be varied by making either a quarter-, half-, or three-quarters- or even a whole turn of the body in leaving the platform.

THE STANDING - SIT - DIVE. Face the open; stand upon the end of a

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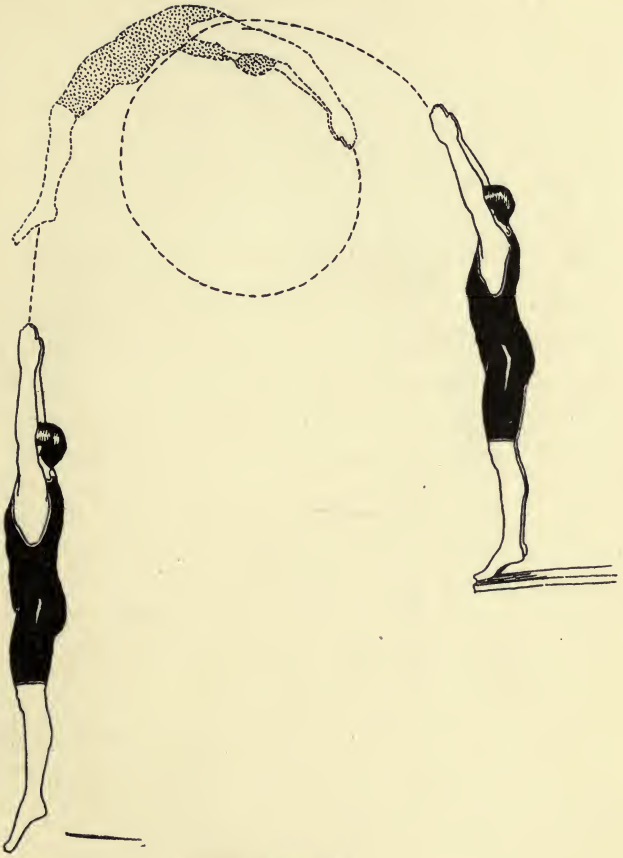

Figure 27

FORWARD-SOMERSAULT, FEET-FIRST

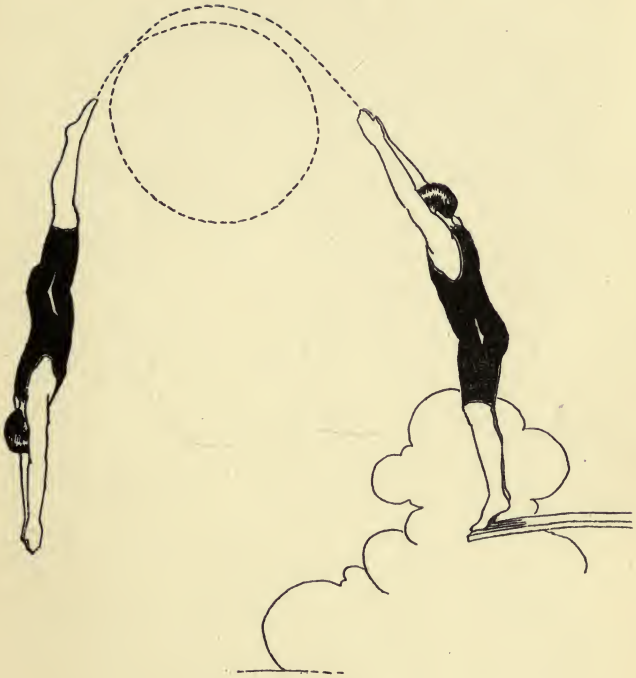

Figure 28

FORWARD-SOMERSAULT, HEAD-FIRST

suitable spring-board, feet well forward. From the knee-flexed position take a gentle upward spring and come down to a sitting position upon the extreme end of the board: with the rebound shoot up and out into the air, dropping the chin upon the chest and inclining the head and body forward as you do so, with the hands in position to take the water as in a standing-head-first-dive. Be careful to straighten out the legs and to keep them together after you leave the board from the sitting position.

THE STANDING-SIT-STANDING-DIVE. This dive is very similar to the one just explained, the only difference being that instead of taking the water from the sitting position you again allow the body to rebound to the feet, and from the standing position you make the ordinary standing-head-first-dive.

THE STANDING-SIT-SOMERSAULT-DIVE. Stand erect; drop to sit and with the rebound make a com-

plete turn in mid-air so as to take the water feet first. When the feet enter the back faces the raft.

BACK - DROP - TO - SIT - REBOUND-BACK-DIVE. Stand upon the end of the board and face the point of departure; drop to sit-astride; rebound to a standing position and take the regular back-dive. A back-somersault may also be taken in this manner.

THE BACK-JACKKNIFE-DIVE. Stand upon the end of the board facing the raft. Take a good upward and backward spring, doubling the body in mid-air, so that the hands may touch the toes, then quickly straighten out the arms and legs and enter the water with the finger tips and face toward the open.

For the Front-Jackknife-Dive simply reverse the position upon the board.

The front-Jack may be made with a run, and this further varied by a twist in the air so as to make either a quarter-, half-, three-quarters- or whole turn be-

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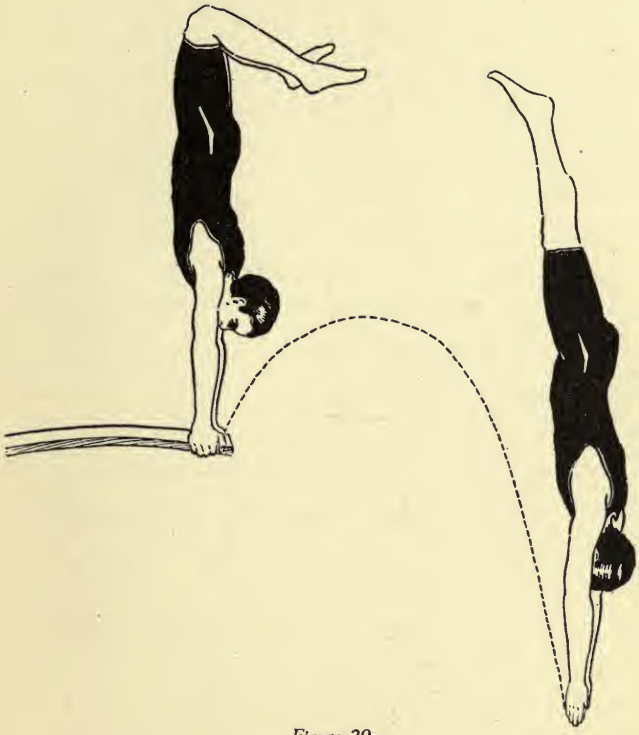

Figure 29

THE HANDSPRING-DIVE

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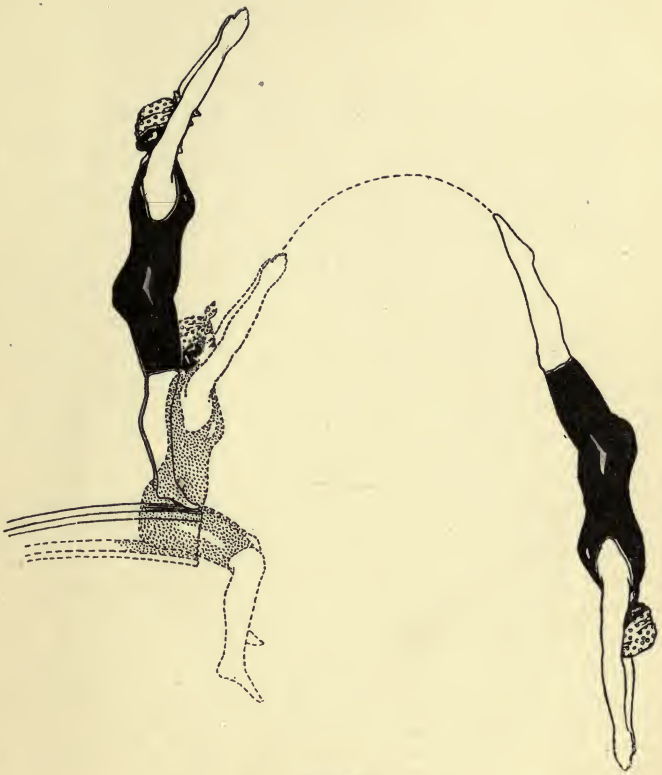

Figure 30

THE STANDING-SIT-DIVE

fore finally straightening out to enter the water.

THE SWAN-DIVE. Stand erect; throw the head well back; stretch the arms before and above the head as if you were about to make an ordinary front-dive; jump well up into the air and quickly bring the arms to right angles with the sides of the body, palms of the hands turned up, at the same time straining the arms well back of you, so as to expand the chest and to hollow the back. Hold the body in mid-air in this position for a fraction of a second, when the chin should drop upon the chest and the arms come rapidly forward to the head-first-dive position and the water taken either in the form of a scoop- or deep-dive.

THE - CANNON - BALL - DIVE. This is a dive requiring much precision and vigor. Stand upon the end of the

board and take a strong upward and outward leap, doubling up the legs in under the body so as to grasp them with the hands below the knees when in mid-air. Kick back with force and bring the arms and legs into position for a head-first-dive.

There are many other dives but they will be easily mastered, if those explained are properly executed.

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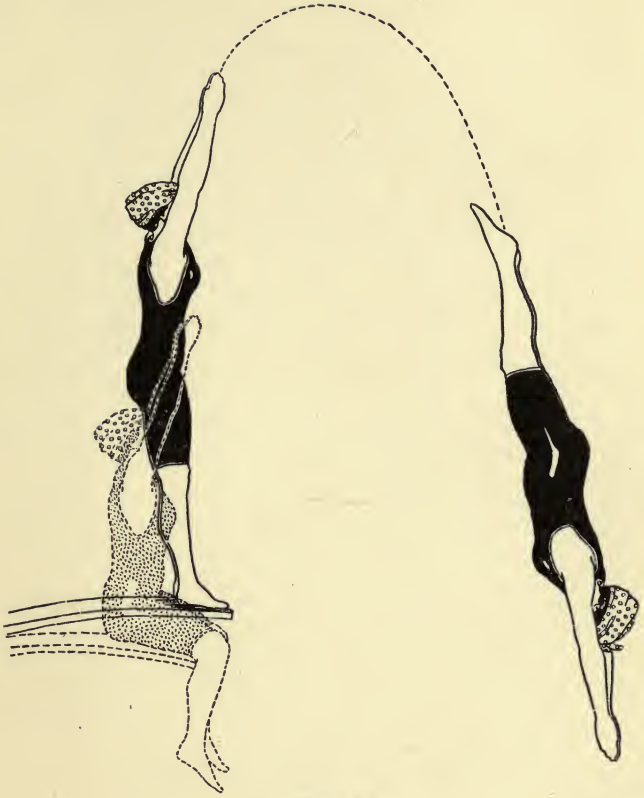

Figure 31

STANDING-SIT-STANDING-DIVE

Figure 32

STANDING-SIT-SOMERSAULT-DIVE

CHAPTER XIII

HOW TO TEACH SWIMMING

First, know how to swim yourself.

Second, obtain the pupil's confidence.

Third, teach him how to float.

Fourth, instruct him in the back-swimming movements.

Fifth, teach him the chest-stroke.

Impress upon your pupil the fact that you will never leave his side and that you will never bring him beyond his depth in the water.

When he attempts to float, be near him so as to prevent his head going under water.

Never joke at his expense in the water.

After you have both waded out up to the hips, have him dip himself so as to

immerse the body completely, then assist him to lie upon his back by holding the back of his head in the palm of your right hand until he is comfortably positioned. Remind him of the necessity of relaxing and breathing properly, then leave him to float by himself.

Should the pupil object to your letting him go altogether, take hold of the waist-band of his trunks and simply have him believe that you are holding him up, until he gets into perfect relaxation and obtains the necessary confidence. This comes very quickly, once he feels at home in the water by loosing up every muscle.

As soon as he has mastered one style of floating, try the next and when he realizes that his body is perfectly buoyant he will be in a position to do anything you may require in the movement of the limbs, without being hampered with the thought of either fear or tension.

Your next endeavor should be to teach him how to swim upon his back.

When he has become proficient in the back-strokes you should graduate him to the stomach ones. The easiest and quickest way is to take hold of his hands and help him to turn over on to the chest-stroke position, telling him at the same time to keep up his leg movements. Keep his head above water, without tension of the neck muscles, which will be a great point gained, because the improper poise of the head is responsible for nearly all the unpleasant features in swimming, such as pains in the back, slow progress through the water, fatigue, headache, etc.

While you move his arms in coördination with his leg movements, you should be walking backward so as to give the body the advantage of momentum in sustaining it. Count one with the drawing up of the legs, two

with their outward and backward kick and three with their closing.

The proper coördination of the arms and legs is sure to follow if you draw the arms forward, open them out and keep them working in unison with the legs, which are controlled by the pupil himself. As the legs close you should aid him in acquiring the habit of advancing his arms himself. Now relinquish the hold of one hand and have the learner use the other alone in combination with the legs.

Accustom him to exhale with the closing in and forward movement of the arms and to inhale with their opening.

While moving backward and holding his hands, you should frequently drop either one or the other so as to accustom both arms to the stroke. When you feel confident that he has the rhythm, let go both arms, when he will swim alone for a stroke or two, perhaps indefinitely.

When the pupil seems proficient

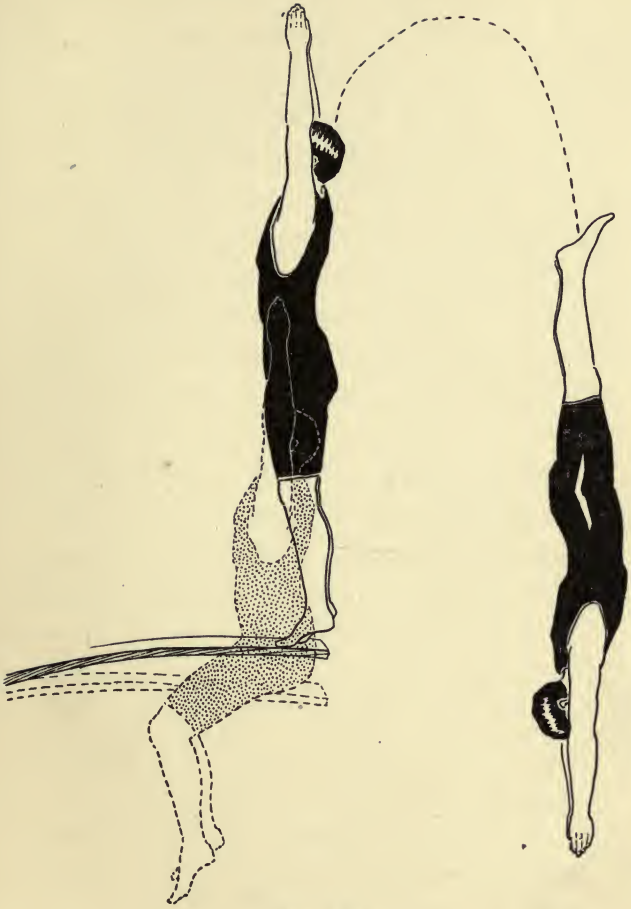

Figure 33

BACK-DROP-TO-SIT-REBOUND-BACK-DIVE

enough to try it alone, have him face the shore and do so. You may hold him by the bathing-suit between the shoulders, if he is over-timid, for the first two or three trials.

Never sustain a person by placing the hand under the chin. This develops the habit of throwing the head back and tensing the neck muscles, which in turn throws the lower section of the body out of position.

As soon as the chest-stroke is mastered and the beginner can swim around freely, he may take up the other strokes by simply watching you.

CHAPTER XIV

ACCIDENTS

If you are unable to swim and should fall into deep water, keep your wits about you and relax so as to allow the body to sustain itself and turn over onto your back.

Do not endeavor to keep the head above the surface by raising the arms over it or by running the risk of exhausting yourself by splashing the water.

Do not keep up a continuous shouting. Use your lung power to breathe in as deeply as you can.

If you are able to swim and are seized with cramps, endeavor to get into your most comfortable position for floating and start at once to rub the affected

part. This will quickly ease the pain and eliminate the difficulty.

If you are able to swim and are seized by a drowning person in such a manner as to make it impossible for you to disengage yourself from him, thus running the risks of a double fatality, it behooves you to save your own life if possible. A very simple, and, I have frequently found, effective way, is to allow yourself to sink, when almost at once the instinct of self-preservation will cause your antagonist to let go of you. When free, you may, if you feel competent, try to save him by choosing the hold you think the most convenient, when you again come to the surface. Another manner is to force one of your knees into his stomach and with both hands upon his chest or shoulders, or one hand over the Adam's apple on the neck, force him away from you.

You should never allow the nervous, noisy, rattle-headed crowd either to in-

timate what to do or interfere with your judgment or actions when a human life hangs in the balance, and when you, because of your knowledge of the requirements of the water and its treacherousness, have to go to the rescue. Those who are the most disposed to give advice and to "boss" matters are either incapable of aiding you or are cowards.

Likewise, in the work of resuscitation, if you are acquainted with its requirements, *do not allow any interference but deliberately carry out your work.* Nobody should be permitted to stand around you while in the performance of your serious and arduous task of bringing back to life an unfortunate. Should you require the aid of one or two persons, it will be quite easy for you to choose them.

If necessary, take the law into your own hands in obliging the addle-headed and curious to stand off so as to give you

Figure 34

BACK-JACK-KNIFE-DIVE

room to work and the victim a chance to breathe.

It is very unwise to risk your life for mere bravado's sake. It is likewise a poor thing to look for reward, as it destroys the satisfaction of the deed; furthermore, the chances are that if your act was a really meritorious one, you will not get it.

It is unwise to jump into the water for a drowning person, if there is a plank, a rope, a life-preserver or a boat convenient and you are able to reach the individual with either. If you can get him to hold on to whatever you throw or shove out to him, rapidly divest yourself of your shoes, coat and vest and then go to his further assistance. So long as he has something to support him he will not risk sinking by letting go, and thus you can do more easily what is necessary for you to do than if he were without these aids.

All your actions with a drowning

person must be cool and deliberate. Never shout at him, for by so doing you increase his nervousness. Talk slowly and positively to him; this will cause him to relax and to conserve his strength, as well as impart confidence and reason.

It will not detract from the glory of your act to call for aid when you swim out after a drowning person, and it should always be done, if there is anybody around.

Never face the individual; come up behind him so as to obtain your grip. If he has been capsized from a boat, assist him to get a hold on it, anywhere; then, taking your position at the farther end, tow it ashore.

There are several ways of bringing a drowning person to shore. The ARM-LOCK, Figure 35; the CHIN-HOLD, Figure 36; the SHOULDER-GRIP, Figure 37. Let your choice of either suit your particular form of swimming,

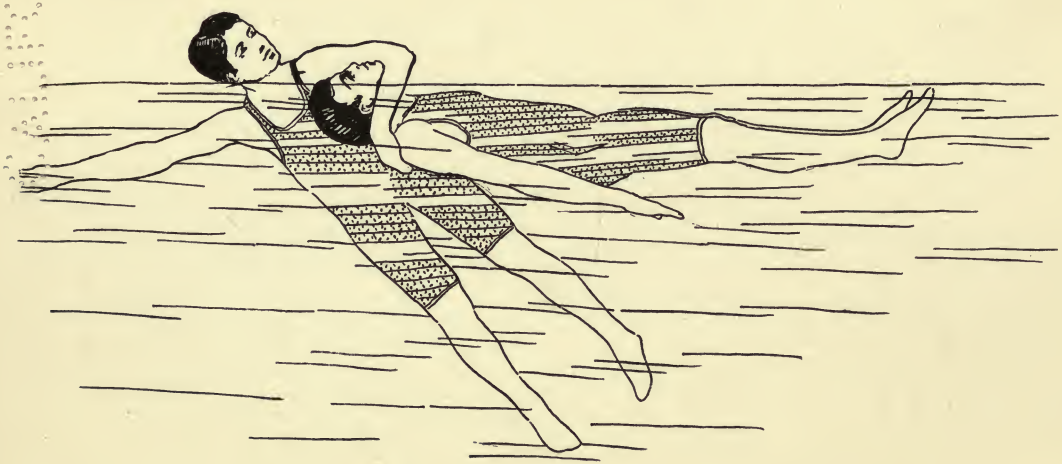

Figure 35

THE ARM-LOCK

or that in which you feel most at home. If you have a strong side-stroke the arm-lock will be the best. It is employed as follows:

THE ARM-LOCK. Come up behind the person and throw your left arm around his neck so as to have the elbow immediately over the Adam's apple, thus allowing you the use of the other arm and both legs to swim to some place of safety. Should your charge at any time become fractious, just press with the elbow upon the apple, when he will at once become as docile as a lamb.

THE CHIN-HOLD. If you are a buoyant but slow swimmer you will find this the most convenient manner to bring a person to safety. In it you have a ready means to overcome any effort to grapple with you, which is simply done by pressing the head under water, as shown in the illustration.

If you have to deal with a person who is not conscious or refractory, the

Shoulder-Grip may be found the most convenient.

Should the victim be a woman, turn her over on to her back and, taking hold of her by the hair, swim off with her to a place of safety in the manner most convenient to you. Her buoyancy and position on the water will make it very easy for you to propel her, and that without any fear of interference on her part, as you will have complete control and she will simply have to submit to conditions which give you the absolute mastery of her.

When physical force or even harsh methods are necessary, do not hesitate. To do so would show a want of common sense rather than an absence of feeling. A good blow in the face or under the jaw with the clenched fist will give you the required control. It must always be borne in mind that in the few moments one has to act in such times and places, good generalship and not sym-

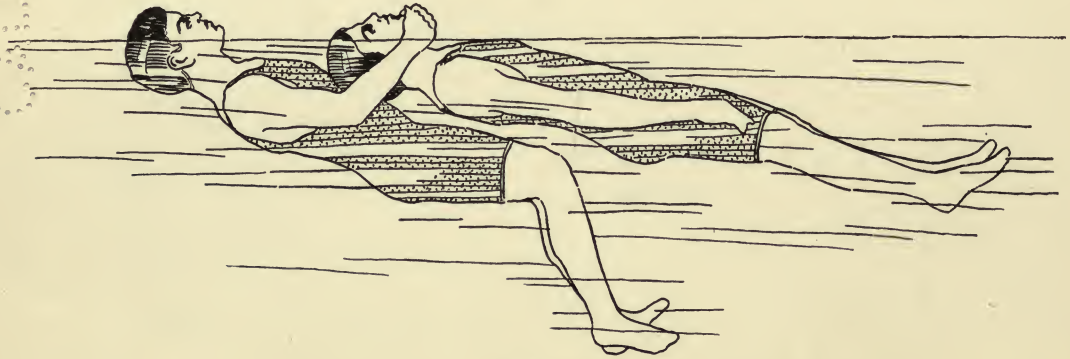

Figure 36

THE CHIN-HOLD

pathy or sentiment counts. When the individual recognizes why you struck him he will not question the wisdom of your action.

CHAPTER XV

RESUSCITATION METHODS

There are several very good means of restoring animation to an all but lifeless body, any of which may be employed. One that is pretty generally known and used is perhaps the best to consider first, although the others are much more simple, up-to-date and less fatiguing.

In this first system two persons are required. The manner of proceeding is as follows:

First, be quick; lose no time; every second counts in the race with death.

Second, loosen all clothing.

Third, lift the body between you, with the head hanging down as in the illustration, Figure 38. Grasp it by

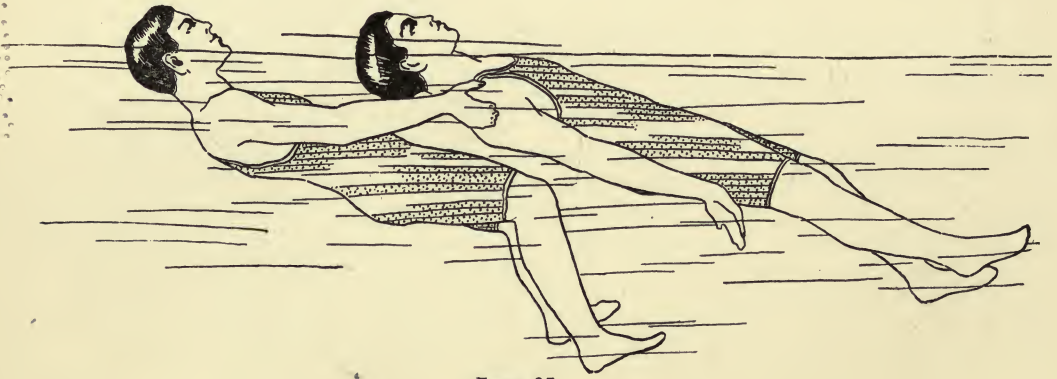

Figure 37

THE SHOULDER-GRIP

the upper arms with a good hold and seize the front part of the legs with the hands by passing the arms between them.

Fourth, shake the body up and down two or three times so as to free the mouth and nostrils from slime and water.

Fifth, place the victim upon his back, with the shoulders slightly raised, by either banking the sand under them or by folding your coat for that purpose. See Figure 39.

Sixth, draw the tongue well forward and tie it with your handkerchief so that it will not fall back and block the pharynx, thus choking the individual and making all your efforts useless.

Seventh, begin artificial breathing, by taking hold of the forearms as in Figure 40 and drawing them up and back of the head. Have your assistant place his hands upon the lower sides of the chest and as you draw the arms over

the body and back of the head have him press the chest walls well in, releasing the pressure when the arms have reached their destination.

The pressure should be gradual and in unison with the progress of the arms. When the arms are brought back to the lower chest you should press with considerable force upon it, your assistant doing likewise with the sides.

The arms should be moved with precision and regularity at the rate of from sixteen to eighteen times a minute.

If two or more extra persons are present, they may be advantageously made use of by each taking a leg and briskly rubbing it upward toward the groin, as soon as breathing has been established but under no circumstances before.

If a physician is available send for him as soon as you are sufficiently free to do so; complications which you might be unable to cope with may occur.

As soon as respiration is natural wrap

CALIFORNIA

Figure 38

FIRST MOVEMENT IN RESUSCITATION

the individual up in warm blankets and give him a free access to all the fresh air possible. Do not talk to him or smoke around him.

Results are frequently hastened by holding smelling salts under the nose, and if handy they may be employed.

SINGLE-HANDED TREATMENT

First, place the victim upon his stomach.

Second, raise the body by grasping it under the waist-line, so that the head will hang down, then shake the body gently up and down two or three times so as to get out the water and slime from the mouth and nose.

Third, place the body upon its back, with shoulders raised.

Fourth, draw out the tongue and tie it.

Fifth, imitate the breathing movements by compressing and expanding the lower ribs with your open hands at

the rate of from sixteen to eighteen times a minute.

The hands in this form of resuscitation are placed more over the sides than the abdomen, and the arms should be brought up from the sides to beyond the head.

As in the previous form of procedure, use warmth and friction as soon as breathing has been established.

In elderly people the bones are very brittle and may be easily fractured, so great care should be taken to avoid such an accident. This may be safely provided against if your pressure is gradual and made with a widely expanded hand, covering as much surface as possible.

THE HALL METHOD

A very simple and effective method is that known as the Hall Method and is done as follows:

First, rid the mouth and nose of slime and water by raising the lower section

Figure 39

SECOND MOVEMENT IN RESUSCITATION

of the body so that by having the head in a suspended position the slime and water will run out.

Second, place the body upon its side.

Third, roll the body on to its stomach; at the same time press down upon the back between the shoulder-blades, slowly counting ONE, TWO, THREE.

Fourth, releasing the pressure, turn the body over on to its side again and repeat until breathing has been established.

The best position to assume, to roll the body from side to stomach, is in kneeling at its back.

DIRECT INFLATION

This is done by holding the tongue forward, closing the nostrils and pressing upon the "Adam's apple," thus closing the entrance to the stomach. Take a long, deep inhalation and breathe forcibly into the person's mouth so as to expand the lungs, then press down upon

the chest so as to expel the air. Repeat until effective. DO NOT GIVE UP.

As soon as breathing has been established spirits may be given in teaspoonful doses, or better still, a glass of warm milk or gruel, if you have it at hand.

Be sure of warmth by proper, but light, covering, plenty of fresh air and absolute quiet.

THE SCHAFER PRONE METHOD

This is the most modern idea for resuscitation, is readily employed when no assistance is at hand and is perhaps the best method of any.

First, rid the mouth and nose of all mucus and water.

Second, place the individual flat upon his stomach, with the arms extended in front of the head.

Third, kneel by his side or across his body, one leg on each side of it.

Fourth, place your hands over the

Figure 40

START OF ARTIFICIAL RESPIRATION

lower ribs with the fingers covering the sides.

Fifth, begin to sway your body forward and backward so as to allow your weight and its release to alternate up from, and down upon, the wrists. Exert the pressure gradually and slowly, allowing three seconds for each pressure and two for its release.

As there is very little muscular fatigue in this system and the results are quick, it is perhaps the best to become proficient in. Another strong feature is that the tongue is unable to fall back, thus eliminating a very great danger.

CHAPTER XVI

DON'TS

Never go into the water after digestion has started; two hours should elapse so as to give the stomach ample time to finish what it has begun. Cramps are frequently the consequence of this injudiciousness, and should you be fortunate enough to escape them, you may rest assured that you will not be equally lucky in avoiding the evil effects to the stomach which such a lack of common sense is sure to produce.

While it is not advisable to eat while bathing, a person may do so without the results just mentioned, if he is either actually employed in the water or staying in it while making his meal; this is because the digestive organs are not in-

terfered with by the rapid withdrawal of blood from them, the circulation accommodating itself to the requirements of the conditions under which the system in general is working.

Unless you are an expert swimmer you should never go beyond your depth. Even though you are an expert, it is not always advisable to show your ability to disport yourself in the water, for by so doing you encourage the incompetent and inexperienced to follow you, frequently with fatal results.

It is wrong to go into the water for a short time and come out and rest on the warm sand in the hot sun. If you desire a sun bath, take it either before or after your swim. No living being can stand such enervating practices, and there is no doubt that many of the incurable diseases of the heart, circulation, nerves, skin, etc., come from such habits.

If you are very warm and have to

wade into the water so as to take your dip, it will be found advantageous first to wet the nape of the neck, the arm-pits and the chest. This will minimize the shock to the system, especially if the water is cold.

If the sun is very strong and you are inclined to loiter for any length of time on the beach or in the water it will be found a good practice to keep the head covered.

After a severe test of speed or over-exertion, swim around slowly for a few minutes so as to help the heart back to its normal action. Never hurry out of the water after strenuous efforts.

It is very injurious to stay in the water if you are cold or have felt a chill. You should get out of it and stimulate good circulation by good, deep breathing, a brisk walk or some active and general calisthenic movements of the body.

Great care should be taken of where

you dive. Find out the depth. Look for pointed rocks beneath the surface. See that there are no water-logged scantlings with the pointed end floating in such a manner that to strike it would mean complete impalement. Projecting timbers, unsuspected stone-shoulders, sudden shallowness of water, etc., play a very dangerous part in the pastime of diving but may be easily avoided with very little precaution.

In diving from a spring-board always be sure of your footing and throw yourself so far from it and the raft as is consistent with safety and grace.

If the raft is a long one and the tide is flowing in or out very rapidly or there is a strong current beneath it, it is wiser and safer to not dive from the end the current goes under.

It is dangerous to dive in at that end to which the anchor or chains are attached.

The exact depths of the water at both

high and low tides should always be ascertained before indulging in the exhilarating amusement and everything done to assure safety as well as pleasure.

If you are not a good swimmer, and even if you are one, do not get on a crowded raft when a number of thoughtless people, or hoodlums, are trying to capsize it. Many have been drowned in that way, for in the scramble to get away from under it, the strugglers after safety are apt to forget the humanities and to leave the poor swimmers to look after themselves. Or perhaps this may be reversed and the good swimmer be pounced upon for support.

Do not attempt to go to the raft unless you are thoroughly competent to do so.

Those using wings or other means of support should never go beyond their depth.

The wise never go swimming where the undertow is strong.

When the sea is kicking up very much and there are guide ropes extending out to the raft, never attempt to work your way out to it by drawing yourself out over them.

When a person is afraid of the water do not force or drag him into it. In children this practice is very apt to bring on some very serious nerve complaint, and furthermore to make it very difficult to learn how to swim when the time to do so arrives. It is best to allow beginners to amuse themselves as they deem fit. As soon as they become accustomed to the water they will become reckless enough.

Never break a promise given in the water. Confidence once destroyed there is hard to regain.

Do not jump upon a beginner, nor should you swim under him and endeavor to catch his legs. It should always be borne in mind that "once scared

in the water, seldom, if ever, made brave again."

One should never question the instructor or life-guard's judgment in regard to dangerous practices or risks in the water.

Never go any distance from the shore in a canoe. Canoes are made for inland streams and brooks, not expansive bodies of water, and under no circumstances should you go out with a person who does not know how to swim.

Never try to exchange places or to stand up in a canoe.

An experienced canoeist never sits up on a seat on a level with the gunwale. Canoes with perforated seats are very dangerous. One should sit down as low as possible in such frail and treacherous boats.

In getting into a boat always step into the centre of it and draw it towards the wharf with the foot. Likewise, when

getting out, draw the boat towards the landing. Do not all try to disembark at once; an upset will follow and perhaps a fatality.

In a steamer or power-boat, never rush to the side with the crowd of ignorant or thoughtless ones to see what the matter is. The reason is obvious.

Never use a stimulant before going into the water; it is very dangerous to do so. If you have to stimulate after you come out, quit the bathing and take to stimulants altogether. Several good breaths, exercises such as rolling the abdomen, taking a short run, employing calisthenic movements, etc., will do more good in restoring circulation than all the whiskies ever invented.

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